



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/802,261

03/17/2004

Mitsuru Saitou

HGM-141-A

4335

21828

7590

05/08/2006

CARRIER BLACKMAN AND ASSOCIATES
24101 NOVI ROAD
SUITE 100
NOVI, MI 48375

EXAMINER

RIVELL, JOHN A

ART UNIT

PAPER NUMBER

3753

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,261

Applicant(s)

SAITOU ET AL.

Examiner

John Rivell

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/17/04 (application).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03172004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claims 1-17 are pending.

On page 6, line 17 (i.e. the very last line of para [024]) it is suggested that "fig. 1" read -- Fig. 2 --.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6, 8, 10, 12-15 and 15 are rejected under 35 U.S.C. §102 (b) as being anticipated by Warsakis (WO 03/014581 published February 20, 2003).

Relying on U. S. Pat. No. 6,910,494 to Warsakis as a translation for the International Publication WO 03/014581 to Warsakis (the U.S. Pat. is a "continuation" of the International Publication), it is seen that Warsakis (WO 03/014581) discloses a "check valve, comprising: a valve body (18) having an axial through-communicating oil path (20) and a cylindrical fitting recess part (24, 26) opened at an axial end thereof; an insert member (14) having a cylindrical fitting projection part (at 30) fitted in said fitting recess part (24, 26) to attach the insert member (14) to the valve body (18), and also having a accommodating space (opening 44) therein opened at one side of the insert member (14) near said fitting projection part (30); and a valve element (40) and a spring (42) disposed in said accommodating space (44) such that said valve element (40) is normally urged by said spring (42) to close an opening (at seat 52 of path 20) of said communicating oil path (20); said cylindrical fitting recess part (24, 26) having one of an annular reduced diameter portion and an annular expanded diameter portion (here the

Art Unit: 3753

"annular expanded diameter portion" at 22) at an inner periphery thereof; said cylindrical fitting projection part (30) having a corresponding one of an annular reduced diameter portion and an annular expanded diameter portion (here the "annular expanded diameter portion" at 60; see fig. 3) at an outer periphery thereof; and diameters of said fitting recess part (24, 26) and said fitting projection part (30), including said annular reduced diameter portions or said annular expanded diameter portions (22, 60), are such that said insert member (14) is press-fitted (see column 4, lines 55-67, i.e. "press fit 52") to said fitting recess part (24, 26) when attaching the insert member (14) to the valve body (18)" as recited in claim 1.

Regarding claim 3, in Warsakis (WO 03/014581), "said cylindrical fitting recess part (24, 26) has an annular expanded diameter portion (at 22) at the inner periphery thereof; and said cylindrical fitting projection part (30) has a corresponding an annular expanded diameter portion (60, fig. 3) at the outer periphery thereof" as recited.

Regarding claim 4, in Warsakis (WO 03/014581), "said annular reduced diameter portions or said annular expanded diameter portions (here the "annular expanded diameter portions") of said cylindrical fitting recess part (24, 26) and cylindrical fitting projection part (30) oppose each other when said insert member (14) is attached to said valve body (18)" as recited.

Regarding claim 6, in Warsakis (WO 03/014581), "the diameter of a portion (such as at the tapered and stepped upper end of insert member 14) of said fitting projection part (30) other than said annular expanded diameter portion (60) thereof being smaller

Art Unit: 3753

than the diameter of a portion of said fitting recess part (24, 26) other than said annular reduced diameter portion (22) thereof" as recited.

Regarding claim 8, in Warsakis (WO 03/014581), "said diameter of said annular expanded diameter portion (60) of said fitting projection part (30) is larger than or equal to the diameter of said portion of said fitting recess part (24, 26) other than said annular expanded diameter portion thereof (22)", as recited, so as to be "press fit at 52" as disclosed at column 4.

Regarding claim 10 in Warsakis (WO 03/014581), "said annular expanded diameter portions (60 and 22) are longitudinally intermediate portions of said fitting projection part (30) and said fitting recess part (24, 26)", respectively, as recited.

Regarding claim 12, Warsakis (WO 03/014581) discloses a "check valve for use in a hydraulic flow passage, comprising: a valve body (18) having an axial oil path (20) formed therein, and having a cylindrical fitting recess (24, 26) formed in one end thereof in communication with said oil path (20), wherein a valve seat (50) is defined where said fitting recess (at 26) joins said axial oil path (20); an insert member (14) adapted to fit in said fitting recess (24, 26) of said valve body (18), said insert member (14) including a cylindrical fitting projection (30) and having an accommodating space (44) defined therein; and a valve element (40) and a spring (42) disposed in said accommodating space (44) when said fitting projection (30) is installed in said fitting recess (24, 26) to attach said insert member (14) to said valve body (18); said valve element (40) being normally biased against said valve seat (50) by said spring (42) to block fluid flow through said axial oil path (20); and said cylindrical fitting projection (30) of said insert

Art Unit: 3753

member (14) is press-fit (see column 4, lines 55-67, "press fit 52") into said fitting recess (24, 26) of said valve body (18) to form an interference fit therebetween effective to retain said insert member (14) in engagement with said valve body (18)" as recited.

Regarding claim 13, in Warsakis (WO 03/014581), "a first cylindrical surface within said check valve, selected from an inner wall of said cylindrical fitting recess and an outer wall of said cylindrical fitting projection (here the "outer wall of said cylindrical fitting projection" 30), has an annular raised rib (60; see fig. 3) provided therearound; a second cylindrical surface within said check valve, which is the other of said inner wall of said cylindrical fitting recess and said outer wall of said cylindrical fitting projection (here the "inner wall of said cylindrical fitting recess" 24, 26), has an annular groove (22) formed therearound corresponding to said raised rib (60); and said raised rib (60) is disposed opposite to said annular groove (22) when said insert member (14) is attached to said valve body (18)" as shown in figure 3, as recited.

Regarding claim 14, in Warsakis (WO 03/014581), "said valve member (40) is substantially spherical in shape" as recited.

Regarding claim 15, in Warsakis (WO 03/014581), the "outer wall of said cylindrical fitting projection (30) includes said annular raised rib (60), and said annular groove (22) is formed in said inner wall of said cylindrical fitting recess (24, 26)" as recited.

Regarding claim 17, Warsakis (WO 03/014581) discloses a "check valve for use in a hydraulic flow passage, comprising: a valve body (18) having an axial oil path (20) formed therein, and having a cylindrical fitting recess (24, 26) formed in one end thereof

Art Unit: 3753

in communication with said oil path (20), wherein a valve seat (50) is defined where said fitting recess (at 26) joins said axial oil path (20); an insert member (14) adapted to fit in said fitting recess (24, 26) of said valve body (18), said insert member (14) comprising a cylindrical fitting projection (30) having an accommodating space (44) defined therein; and a valve element (40) and a spring (42) disposed in said accommodating space (44) when said fitting projection (30) is installed in said fitting recess (24, 26) to attach said insert member (14) to said valve body (18); said valve element (40) being normally biased against said valve seat (50) by said spring (42) to block fluid flow through said axial oil path (20); a first cylindrical surface, selected from an inner wall of said cylindrical fitting recess and an outer wall of said cylindrical fitting projection (here the "outer wall of said cylindrical fitting projection" 30), has a raised annular rib (60; fig. 3) extending therearound, and a second cylindrical surface which is the other of said inner wall of said cylindrical fitting recess and the outer wall of said cylindrical fitting projection (here the "inner wall of said cylindrical fitting recess" 24, 26), has an annular groove (22) formed therearound corresponding to said raised annular rib (60); and said cylindrical fitting projection (30) of said insert member (14) is press-fit (column 4, lines 55-67; "press fit 52") into said cylindrical fitting recess (24, 26) of said valve body (18) to form an interference fit therebetween effective to retain said insert member (14) in engagement with said valve body (18)" as recited.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3753

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 5, 7, 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warsakis (WO 03/014581).

The document Warsakis (WO 03/014581) discloses all the claimed features with the exception of having the "cylindrical fitting recess part (24, 26 include) an annular reduced diameter portion (forming a rib) at the inner periphery thereof; and said cylindrical fitting projection part (30 include) a corresponding an annular reduced diameter portion (forming a recess) at the outer periphery thereof" (claim 2) which in effect reverses the physical location of the "recess" 22 and "rib" 60 of Warsakis (WO 03/014581).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to physically reverse the location of the "recess" and "rib" of Warsakis (WO 03/014581) such that the cylindrical fitting recess part (24, 26 includes) an annular reduced diameter portion (forming a rib) at the inner periphery thereof; and said cylindrical fitting projection part (30 includes) a corresponding an annular reduced diameter portion (forming a recess) at the outer periphery thereof", since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167. As explained above, the differences here merely reflect physical reversal of the location of the respective "recess" 22 and "rib" 60 of Warsakis (WO 03/014581).

Regarding claims 5, 7, 9 and 16, when considering an embodiment of Warsakis (WO 03/014581) in which the "recess" 22 and "rib" 60 are physically reversed relative to their respective disclosed positions, the remaining limitations result in being met essentially as set forth above.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (Japan No. 06042446 cited by applicant and described in general in paragraphs [001] through [004], and explicitly described in paragraph [005] of the instant specification) in view of Warsakis (WO 03/014581).

The document to Hayashi et al. discloses the recited "continuously variable transmission" and ball check valve combination but does not include the specific valve "according to claim 1".

The document to Warsakis (WO 03/014581, the U. S. Pat. No. 6,910,494 to Warsakis as a translation) discloses that it is known in the art to employ a "comprising: a valve body (18) having an axial through-communicating oil path (20) and a cylindrical fitting recess part (24, 26) opened at an axial end thereof; an insert member (14) having a cylindrical fitting projection part (at 30) fitted in said fitting recess part (24, 26) to attach the insert member (14) to the valve body (18), and also having a accommodating space (opening 44) therein opened at one side of the insert member (14) near said fitting projection part (30); and a valve element (40) and a spring (42) disposed in said accommodating space (44) such that said valve element (40) is normally urged by said spring (42) to close an opening (at seat 52 of path 20) of said communicating oil path (20); said cylindrical fitting recess part (24, 26) having one of an annular reduced diameter portion and an annular expanded diameter portion (here the "annular expanded diameter portion" at 22) at an inner periphery thereof; said cylindrical fitting projection part (30) having a corresponding one of an annular reduced diameter portion

Art Unit: 3753

and an annular expanded diameter portion (here the "annular expanded diameter portion" at 60; see fig. 3) at an outer periphery thereof; and diameters of said fitting recess part (24, 26) and said fitting projection part (30), including said annular reduced diameter portions or said annular expanded diameter portions (22, 60), are such that said insert member (14) is press-fitted (see column 4, lines 55-67, i.e. "press fit 52") to said fitting recess part (24, 26) when attaching the insert member (14) to the valve body (18)" exactly as recited in claim 1 for the purpose of allowing the valve to be assembled in one step by pressing the insert member 14 into the recess 24, 26 of the valve body 18, entrapping the valve element and bias spring within an accommodating space between the insert member 14 and the valve body 18.

It would have been obvious at the time the inventing was made to a person having ordinary skill in the art to employ in the continuously variable transmission of Hayashi et al. the check valve device of Warsakis (WO 03/014581) such that the check valve can be assembled in one step by press fitting the insert member into a recess of the valve body thereby entrapping the valve element and biasing spring therebetween, as opposed to the multiple step and process required for assembly of the check valve used by Hayashi, as recognized by Warsakis (WO 03/014581).

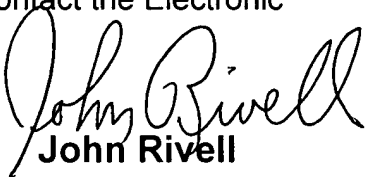
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Rivell
Primary Examiner
Art Unit 3753

j.r.